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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,625	12/20/2000	Frank Bor-Her Chen	25164-67462	9358

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EXAMINER	
TSOY, ELENA	
ART UNIT	PAPER NUMBER
1792	

NOTIFICATION DATE	DELIVERY MODE
07/15/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	09/742,625	CHEN ET AL.	
	Examiner	Art Unit	
	Elena Tsoy	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 June 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *37-39,51,52 and 67-71* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *37-39,51,52 and 67-71* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Amendment filed on June 3, 2008 has been entered. Claims 37-39, 51-52, and 67-71 are pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The Examiner Note: the phrase "**formaldehyde-free**" primer coating composition was broadly interpreted by the Examiner according to conventional meaning as a primer coating composition having no unreacted formaldehyde. It is well settled that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

2. Claims 37-39, 51-52, and 67-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 2224732 in view of Cummings (US 3,529,993), further in view of Helmer et al (WO 9622338) for the reasons of record set forth in paragraph 2 of the Office Action mailed on 3/3/2008.

3. Claims 38-39, and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 2224732 in view of Cummings, further in view of Helmer et al, and further in view of van der Hoeven (US 4,789,604) for the reasons of record set forth in paragraph 3 of the Office Action mailed on 3/3/2008.

Response to Arguments

4. Applicants' arguments filed June 3, 2008 have been fully considered but they are not persuasive.

Claim Rejections Under 35 U.S.C. § 103(a)

A. DE 2224732, Cummings and Helmer et al

(1) Applicants assert that DE '732 describes a process in which a paper carrier sheet coated and impregnated with an aminoplast resin based primer is applied on a wood surface and pressed under pressure and heat. The resin flows during the molding process to form a closed synthetic resin surface, and the sheet is joined to the wood material. In contrast, the presently claimed method does not include a paper carrier for the primer, and the primer is applied directly on a surface of a compressible mat made of at least one of fibers and particles in a resin binder composition, or on a surface of a paper that is already adhered to the compressible mat. This lack of a carrier sheet requires that the primer composition exhibit excellent hold out (i,e. not sink too far into the surface and remain on top) when applied to the compressible mat, and the crosslinked matrix should rapidly form a surface suitable for receipt of subsequently applied top coats.

The Examiner respectfully disagrees with this argument.

First of all, as was explained by the Examiner in paragraph 8 of the Non-Final mailed on 4/23/2007 paper carrier reads on claimed compressible mat because it is well known in the art that paper is made of cellulosic (**wood**) *fibers* in a resin binder composition and it is *compressible*.

Second, a process where a resin flows during the molding process to form a closed synthetic resin surface is a **prior art** process not an inventive process of DE '732.

(2) Applicants assert that DE '732 fails to teach or suggest application of a topcoat over the sheet.

The argument is unconvincing because DE '732 does teach the application of a a mixture ofan aqueous fast curing amino-plastics resin and a dispersion of a self-crosslinking acrylic resin (claimed topcoat) over the preimpregnated and cured paper sheet (See paragraph 8 of the Non-Final mailed on 4/23/2007 and Examples 1, 2 of DE '732).

(3) Applicants assert that after reviewing the DE ' 732 reference, one of ordinary skill in the art would not have a reason to eliminate the coated/impregnated paper carrier and replace it with a primer that rapidly forms a top coat receptive surface on a compressible mat as presently claimed, and would have no incentive to apply a top coat over the paper carrier. Further, even if the paper carrier in DE '732 was eliminated as suggested by the Examiner, it is Applicants' position that the references would not provide one of ordinary skill with an incentive to replace the aminoplast resins in DE '732 with the compositions described in Cummings. The aminoplast resins described in DE '732, which are formed by reacting amines and aldehydes,

differ significantly from the compositions in Cummings, which are reaction products of polyamines and polyanhydrides (e.g. a reaction product of a vegetable or a fish oil with maleic anhydride).

The Examiner respectfully disagrees with this argument. First of all, in contrast to Applicants statement, the Examiner never suggested to eliminate the paper carrier in DE '732 because the Examiner interpreted the paper as claimed compressible mat.

Second, one of ordinary skill would have a strong incentive to replace *heat* curing aminoplast primer in DE '732 with amino resin primer of Cummings because the amino resin of Cummings (that is suitable for **priming *wood* fibers**) cures fast at *room* temperature. Note that a room temperature curing primer of Cummings is supposed to be different from a heat curing primer of DE '732. It is held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

(4) Applicants assert that since the compositions are very different, knowledge of the amine compositions in DE '732 and Cummings would not provide the skilled artisan with any incentive to select the imine compounds in Helmet's traffic paint as a primer coating in a process for making a polymer coated article. Applicants submit that under these circumstances the selection of the Helmer traffic paint composition from the multitude of possible choices of quick drying coatings would not be obvious to one of ordinary skill in the art, and the present obviousness rejection could only be attributed to the exercise of impermissible hindsight bias. The process in DE '732 does not even contemplate application of a topcoat, and the Helmer and Cummings references teach that their primer compositions are to be applied under ambient conditions without a topcoat. The fact that certain imines are reactive toward cellulose does not provide a rationale for utilizing the compositions in Helmet, which are taught to be applied under ambient conditions without a topcoat, in the process of DE '732, which utilizes high heat and pressure and does not utilize a topcoat. Applicants submit that it is not the compatibility between imines and cellulose that is relevant here, it is the compatibility of the imines and subsequently applied topcoat compositions, which are not even contemplated in the cited references. Again, the Examiner has identified no teachings in DE '732 that would suggest use of the traffic paint in Helmer as a primer in making wood composite materials.

The Examiner respectfully disagrees with this argument. Cummings teaches that amino resins curing fast at room temperature may be used for factory applied **wood priming** (See column 2, lines 14-20) ***or*** in **traffic** paints where virtually no waiting period is necessary for the

paint to dry before traffic can pass (See column 2, lines 36) instead of heat curing or slow curing prior art compositions including **prior art wood primers** (See column 1, lines 56-66). Helmer et al teach a fast hardening aqueous (amino resin) coating composition can be utilized in applications where it is desirable to form a hard, smear-resistant, non-tracking surface very quickly after deposit of the coating under ambient conditions, *in particular*, as fast hardening aqueous traffic marking paint, which forms a hard, smear-resistant surface very soon after application under ambient conditions to a surface, such as a road way, and which allows the resumption of normal traffic with minimal interruption (See column 1, lines 11-20).

Therefore, one of ordinary skill in the art would have clear incentive to replace wood primer of DE '732 with room temperature fast curing **wood**/traffic resin of Cummings to achieve the desired room temperature fast curing. Second, one of ordinary skill in the art would also have clear incentive to use Helmer **traffic** resin instead of wood/**traffic** resin of Cummings to achieve the desired hard, smear-resistant coating. Third, one of ordinary skill in the art would have reasonable expectation of **compatibility of top coat layer of an aqueous amino-plastics resin and a dispersion of a self-cross-linking acrylic resin of DE '732 with an aqueous (amino resin) of Helmer**. DE '732 teaches that the primer should be quick-hardening and contain reactive groups which react with self-crosslinking acrylic resin made from methacrylic acid, nitriles (See Translation, page 4, paragraph 2). The resin of Helmer contains the 95-**99** % of the same self-crosslinking acrylic resin as that of DE '732. Furthermore, the Examiner takes official notice that it is a common knowledge in the art that polyimines, such as polyethyleneimine of Helmer (See column 16, lines 6-8), is **reactive toward cellulose** (i.e. toward hydroxyl groups), and is used as adhesive and anchoring agent for paper, and as a fixative agent for textile fibers, as evidenced by Hawley's Condensed Chemical Dictionary, Thirteenth Edition. Therefore, it would be reasonably expected that the acrylic resin of Helmer to be compatible with and would react with the acrylic resin of DE '732. Therefore, in contrast to Applicants argument, a prima facie case of obviousness over DE 2224732 in combination with Cummings and Helmer et al has been established by the Examiner.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so

long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

(5) Applicants assert that the recent Supreme Court case KSR International Co. v. Teleflex Inc permits rejection of a claimed invention as being obvious where there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions to pick from to solve the problem. Here, however, the person of ordinary skill in the art is not presented with a finite number of solutions to pick from, but rather, an infinite number of potential choices. A search of the PTO website reveals that over 75,000 issued patents are directed to coatings? Of these over 75,000 patents (and the zillions of coating compositions disclosed therein) the Examiner has not established that a person of ordinary skill in the art, without the benefit of having read the instant application, would have any reason to focus on or pick the traffic paint composition of the Helmer reference. This is especially true given that the Helmet reference is directed to an end use (traffic paint) that is far removed from Applicants' field of endeavor (manufacture of composite substrates). So, without the Helmer reference, what types of coating chemistries were available to the skilled artisan?

The Examiner respectfully disagrees with this argument. First of all, *it is well settled that the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem*. One of ordinary skill in the art would have clear incentive to use Helmer **traffic** resin instead of wood/**traffic** resin of Cummings to achieve the desired hard, smear-resistant coating. Third, one of ordinary skill in the art would have reasonable expectation of compatibility of top coat layer of an aqueous amino-plastics resin and a dispersion of a self-cross-linking acrylic resin of DE '732 with an aqueous (amino resin) of Helmer. Therefore, in contrast to Applicants argument, there are a finite number of identified, predictable solutions to pick from to solve the problem.

(6) Applicants assert that DE '732 discloses aminoplast or amino resins. The composition in Cummings is the reaction product of a polyanhydride and an amine, which the Examiner also characterizes as an "amino resin." Neither reference discloses or suggests Applicants' claimed primer composition that includes a polyimine and a volatile base. In summary, the presently claimed primer composition is not an "amino compound" as taught by DE '732 and Cummings. Since the compositions are very different, knowledge of the amine compositions in DE '732 and Cummings would not provide the skilled artisan with any incentive to utilize the imine compounds in Helmer's traffic paint as a primer coating in a process for

making a polymer coated article. Applicants respectfully submit that under these circumstances the selection of the Helmer's traffic paint composition from the zillions of possible choices would not be obvious to one of ordinary skill in the art, and the present obviousness rejection could only be attributed to the exercise of impermissible hindsight bias. Further, the process in DE '732 requires that the primer coat composition be heated and dried prior m application of a topcoat, while the Helmer and Cummings references teach that their primer compositions are to be applied under ambient conditions without a topcoat. There is no teaching in Helmet or Cummings that would suggest to one of ordinary skill that their compositions could be successfully topcoated and heated in a press as required in the process described in DE '732. For the reasons above, the imine compounds in Helmer would not be substitutable for the amino compounds in DE '732 and Cummings to provide the presently claimed invention.

The Examiner respectfully disagrees with this argument. As is discussed above, the cited prior art would provide the skilled artisan with a strong incentive to utilize the imine compounds in Helmer's traffic paint as a primer wood coating in DE '732: Cummings teaches that amino resins curing fast at room temperature may be used for factory applied **wood priming** (See column 2, lines 14-20) ***or*** in **traffic** paints where virtually no waiting period is necessary for the paint to dry before traffic can pass (See column 2, lines 36) instead of heat curing or slow curing prior art compositions including **prior art wood primers** (See column 1, lines 56-66). Helmer et al teach a fast hardening aqueous (amino resin) coating composition can be utilized in applications where it is desirable to form a hard, smear-resistant, non-tracking surface very quickly after deposit of the coating under ambient conditions, *in particular*, as fast hardening aqueous traffic marking paint, which forms a hard, smear-resistant surface very soon after application under ambient conditions to a surface, such as a road way, and which allows the resumption of normal traffic with minimal interruption (See column 1, lines 11-20).

Therefore, one of ordinary skill in the art would have clear incentive to replace wood primer of DE '732 with room temperature fast curing **wood**/traffic resin of Cummings to achieve the desired room temperature fast curing. Second, one of ordinary skill in the art would also have clear incentive to use Helmer **traffic** resin instead of wood/**traffic** resin of Cummings to achieve the desired hard, smear-resistant coating. Third, one of ordinary skill in the art would have reasonable expectation of compatibility of top coat layer of an aqueous amino-plastics resin and a dispersion of a self-cross-linking acrylic resin of DE '732 with an aqueous (amino resin) of Helmer. DE '732 teaches that the primer should be quick-hardening and contain reactive groups which react with self-crosslinking acrylic resin made from methacrylic acid, nitriles (See

Translation, page 4, paragraph 2). The resin of Helmer contains the 95-**99** % of the same self-crosslinking acrylic resin as that of DE '732. Furthermore, the Examiner takes official notice that it is a common knowledge in the art that polyimines, such as polyethyleneimine of Helmer (See column 16, lines 6-8), is **reactive toward cellulose** (i.e. toward hydroxyl groups), and is used as adhesive and anchoring agent for paper, and as a fixative agent for textile fibers, as evidenced by Hawley's Condensed Chemical Dictionary, Thirteenth Edition. Therefore, it would be reasonably expected that the acrylic resin of Helmer to be compatible with and would react with the acrylic resin of DE '732. Therefore, in contrast to Applicants argument, a prima facie case of obviousness over DE 2224732 in combination with Cummings and Helmer et al has been established by the Examiner.

(7) Applicants submit that KSR International Co. v. Teleflex Inc. cautions that"'[a] fact finder should be aware.., of the distortion caused by hindsight bias and must be cautious against arguments reliant upon ex post reasoning. KSR does not permit selective picking and choosing bits-and-pieces of technology out of the nearly infinite possible available references. Nor can the combination come from the applicant's invention itself? The present obviousness rejection is based on hindsight following review of the present disclosure, and is improper.

The Examiner respectfully disagrees with this argument. For the reasons discussed above, the cited prior art follows KSR rationales:

A. Combining prior art elements according to known methods to yield predictable results.
B. Simple substitution of one known element for another to obtain predictable results.
C. Use of known technique to improve similar devices (methods or products) in the same way.
D. Applying a known technique to a known device (method or product) ready for improvement to yield predictable results.
E. "Obvious to try" – choosing from a finite number of identified, predictable solutions.
F. Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces/market place incentives if the variations are predictable to one of ordinary skill in the art.
G. The (teaching-suggestion motivation test.

B. DE 2224732, Cummings, Helmer et al and van der Hoeven

Applicant traverses the rejection over DE '732 in view of Cummings, further in view of Helmet, and further in view of van der Hoeven (US 4,789,604). The applied references fail to disclose or suggest the inventions defined by Applicant's claims, and provide no teaching that would have suggested the desirability of modification to arrive at the claimed invention. As noted above, the amino compounds used in DE '732 and Cummings are very different from the imine compounds described in Helmer. One of ordinary skill in the art would have no incentive to modify the process in DE '732 to replace the amino compounds with the compounds in Helmer, and such a modification would not have a reasonable expectation of success. These deficiencies are not remedied by the van der Hoeven reference, which would further fail to provide one of ordinary skill in the art with an incentive to make the modification to the DE '732 process proposed by the Examiner.

The Examiner respectfully disagrees with this argument for the reasons discussed above. In contrast to Applicants argument, van der Hoeven is a secondary reference which is relied upon not to show claimed imine primer but to show that a substrate to be coated may be a wood panel with paper attached to it.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Friday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy, Ph.D.
Primary Examiner
Art Unit 1792

July 12, 2008

/Elena Tsoy /

Primary Examiner, Art Unit 1792